

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A ladder circuit editing system for inputting and editing a sequence program for a program controller in the form of a ladder diagram comprising:
an unavailable area for storing a plurality of previously stored circuit patterns of circuit elements;
an available area for storing circuit elements of a circuit pattern being input;
circuit pattern extracting means for making a comparison between a circuit element ~~being input~~ stored in said available area and a corresponding circuit element contained in one of the plurality of previously stored circuit patterns stored in said unavailable area, and extracting from the plurality of previously stored circuit patterns an extracted circuit pattern in which the comparison indicates an agreement between the compared circuit elements;
display means for displaying the extracted circuit pattern on an input screen; and
copying means for copying the extracted circuit pattern into said available area in response to an input by an operator.
2. (Previously Presented) A ladder circuit editing system according to claim 1, wherein:

when more than one said extracted circuit pattern is extracted, said display means successively displays, for selection by an operator, the plurality of extracted circuit patterns; and in response to the selection of one of the plurality of extracted circuit patterns, said copying means copies the selected extracted circuit pattern into said available area.

3. (Original) A ladder circuit editing system according to claim 2, wherein said display means displays a previously selected circuit pattern as a top priority.

4. (Previously Presented) A ladder circuit editing system according to claim 3, further comprising:

a selected circuit pattern address storage area storing an address of a previously selected circuit pattern; and

a replacing means for placing the address of the previously selected circuit pattern at the head of said selected circuit pattern address storage area,

wherein said display means displays as a top priority the previously selected circuit pattern according to an order of addresses stored in said selected circuit pattern address storage area.

5. (Previously Presented) A ladder circuit editing system for inputting and editing a sequence program for a program controller in the form of a ladder diagram comprising:

an unavailable area for storing a plurality of previously stored circuit patterns of circuit elements;

an available area for storing a circuit pattern inputted by an operator, said inputted circuit pattern comprises circuit elements;

circuit pattern extracting means for making a comparison between a circuit element of the circuit pattern stored in the available area and a corresponding circuit element contained in one of the plurality of the previously stored circuit patterns from the unavailable area, and extracting from the plurality of previously stored circuit patterns an extracted circuit pattern in which the comparison indicates an agreement between the compared circuit elements;

display means for displaying the extracted circuit pattern on a screen; and

copying means for copying the extracted circuit pattern into said available area in response to another input by the operator.

6. (Previously Presented) The ladder circuit editing system according to claim 5, further comprising selecting means for receiving said another input from the operator, wherein said another input is whether the extracted circuit pattern is to be stored.

7. (Previously Presented) The ladder circuit editing system according to claim 5, wherein when the inputted circuit element of said inputted pattern is in activation division, said extracting means compares the inputted circuit element with the stored circuit elements of an activation division of one stored circuit pattern of said plurality of circuit patterns.

8. (Previously Presented) The ladder circuit editing system according to claim 7, wherein when the circuit element from the inputted circuit elements, is in an interlock division of said inputted circuit pattern, said extracting means compares the circuit element with the corresponding circuit elements being in an interlock division of one of said plurality of previously stored circuit patterns.
9. (Previously Presented) The ladder circuit editing system according to claim 8, wherein when the circuit element from the inputted circuit elements, is in an output division of said inputted circuit pattern, said extracting means compares the circuit element with the corresponding circuit elements being in an output division of one of said plurality of previously stored circuit patterns.
10. (Previously Presented) The ladder circuit editing system according to claim 6, wherein when said extracting means extracts more than one circuit patterns, said selecting means sequentially asks the operator for said another input for each of said more than one circuit patterns.
11. (Previously Presented) A method for inputting and editing a sequence program for a program controller in a form of a ladder diagram, the method comprising:
pre-storing a plurality of circuit patterns in a first storage area;

inputting a new circuit pattern;
storing the new circuit pattern in a second storage area;
comparing the stored new circuit pattern with each of said pre-stored plurality of circuit patterns;
extracting each circuit pattern from said pre-stored plurality of circuit patterns that matches the stored new circuit pattern;
displaying said each extracted circuit pattern on a screen;
selecting said each displayed circuit pattern by an operator; and
copying the selected circuit pattern into said second storage area,
wherein said comparison is performed by comparing each circuit element of the new circuit pattern with a corresponding circuit element from said each circuit pattern of said stored plurality of circuit patterns.